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DR. SAM FARLOW TRELEASE has been appointed assistant professor of plant physiology in the agricultural college of the University of the Philippines. He sailed on July 18 and begins his work on arriving at Los Baños.

DISCUSSION AND CORRESPONDENCE

MAN AND THE ANTHROPOIDS

IN our current scientific literature one frequently meets the assertion that man is a lineal descendant of the anthropoid apes. The evident implication is that the extant anthropoids, orang, gibbon, gorilla and chimpanzee, are intended. Thus in the issue of "SCIENCE," of February 23 *ultimo*, Professor Stewart Paton remarks:

The time is rapidly passing, as Yerkes has pointed out, when on account of the disappearance of the higher apes it will be possible to trace the various gradations in our ancestral line.

The correction of this common error lies all along the line of technical evolutionary thought from Huxley to the present, but it does not seem to have penetrated popular science. Our leading authority in this field, Professor Duckworth, in his "Morphology and Anthropology," Volume I, page 238, Second Edition, 1915, writes:

We must conclude that the existing anthropoid apes, constituted as they now are, did not figure in the ancestral history of man.

This should relieve our anxieties regarding "our ancestral line."

While our knowledge of the anthropoids is not as complete as we might wish, the whole of it is against the supposition of the natives of the Congo and of Borneo that man is ascended from the anthropoids or the latter are descended from man. The thralldom of morphology accounts for much biological belief both ancient and modern, but the science of the present puts much more weight on anatomy and physiology. It appears to be a sound principle that groups showing inverse developments are not genetically related. Duckworth points out some of these inversions as regards man and the anthropoids, such

as in dentition, in the speno-ethmoidal angle, and in the speno-maxillary angle. Metchnikoff, while he assumes as a hypothesis that man is descended from "some anthropoid ape," pointed out that the present anthropoids have the *os penis* which does not appear in man, and that the *hymen* which is unique to the *genus Homo* is absent in the anthropoids. Several anatomists have followed Aristotle in holding that the hand places man in a distinct order, while Topinard was equally emphatic regarding the human foot. Evidences along these lines are supplemented by pre-historic archeology, as all the older human crania are dolichocephalic, while the crania of all anthropoids are extremely brachycephalic.

Whether "scientists" are entitled to believe what they please or are to be guided by observations and verifications is perhaps an open question. Weismann accepted *generatio aequivoca*, although he admitted "all the evidence is against it." Still, many of us believe that a sound science and a sound education demand fidelity to the facts of experience and to those theories alone which grow out of them.

MATTOON M. CURTIS

CLEVELAND

A GIRDLING OF BEAN STEMS CAUSED BY BACT. PHASEOLI

DURING a field trip in Michigan in July, 1914, the writer found a peculiar girdling of the stems and branches of field beans to be prevalent in several localities. Specimens were collected from Kent, Newaygo and Tuscola counties. Since then specimens of this disease have been collected from various parts of the state each year.

The disease appears at the nodes of stems and branches as small water-soaked spots. These enlarge, encircling the affected parts. Later these diseased areas become amber-colored. This girdling is usually completed by the time the pods are about half mature. The affected tissue is so weakened that from the weight of the tops the stem breaks at the diseased node. These signs of the disease may appear before any evidence of the bacterial blight upon the pods.

Inoculations into stem nodes of healthy plants, with a pure culture of *Bact. phaseoli* Erw. Sm. have produced typical signs of the disease. Plants so inoculated also showed the characteristic breaking at the stem node.

Plants inoculated in a similar manner with cultures of species of *Fusarium* and *Rhizoctonia* isolated from platings of this diseased stem tissue, showed no girdling or breaking.

It seems likely that infection results from the washing of bacteria from affected cotyledons or leaves to the axils of the leaves, but the method of entry of this organism is not yet worked out.

A more complete report upon this disease will be given at a later date.

J. H. MUNCIE

MICHIGAN AGRICULTURAL EXPERIMENT STATION

QUOTATIONS

SCIENCE AND INDUSTRY

THE important and impressive review of the rise and progress of the organic chemical industry issued by Messrs. Levinstein, Ltd., of Blackley, near Manchester, and of Ellesmere Port, which appeared as a supplement to the *Manchester Guardian* of June 30, marks a welcome development of industrial enterprise. Even the most indifferent and ill-informed reader can not but be made aware, as a result of its perusal, of the importance of the highest facilities for scientific education and training, when in so striking a fashion he is compelled to realize the fruits of it in the enormous industrial advance of Germany in all that pertains to the organic chemical industries, whether it takes the form of artificial dye-stuffs, synthetic organic products, or that of chemico-therapeutics. The advent of the war quickly laid bare our serious deficiencies, not to say our utter poverty, in all three departments of chemical manufacture.

In the course of the articles, which have been written by men eminent in their respective fields of chemical science and its applications, the distinction is made absolutely clear as between industries the development of which has mainly been the result of the

adoption of steam power and of mechanical appliances, and those depending upon fundamental researches of a physical and chemical character, such as are, to use the phrase of one of the writers, "built up from the depths," and require, therefore, not merely the energetic business organizer and "scientific management," with a view to output, but the highly trained scientific man capable of appreciating the discoveries of pure science and apt in their application to human needs. In this valuable review of the progress of the many departments of a vital industry—the key, indeed, to the successful prosecution of many allied and dependent industries—it is clearly revealed how remiss the nation has been in a true appreciation of what constitutes the firm foundation of industrial pre-eminence. The fault has lain not so much, as some of the writers seem to indicate, with the colleges and universities as with the industries concerned, which have hitherto offered small salaries and poor prospects to the carefully trained and competent science student; indeed, have looked upon the chemist as a necessary evil, to be avoided if possible.

One of the most important articles is that by Dr. Levinstein, inasmuch as he carefully points out the respective spheres of the university and the works in the effective training of the future industrial chemist. Once those concerned with the successful administration of our industries realize the necessity for encouraging by a liberal payment the work of the efficiently trained chemist there will be no lack in the supply of suitable men. That the nation contains such men has been shown by the fact that the demands of this devastating war for the supply of high explosives have been met with an energy and an efficiency which have surprised our chief enemy.—*Nature*.

SCIENTIFIC BOOKS

The Theory of Measurements. By LUCIUS TUTTLE, B.A., M.D., Philadelphia, Dr. Lucius Tuttle, Jefferson Medical College. 1916. Pp. xiv + 303. Price \$1.25.

Any one who has read the reports on elemen-